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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,875	12/31/2003	Yan Zhou	75622P006501	6308

22503 7590 11/14/2006

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EXAMINER	
SINGH, RAMNANDAN P	

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,875	ZHOU, YAN	
	Examiner	Art Unit	
	Ramnandan Singh	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *Oct. 17, 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Aug. 28, 2006 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Pessl et al [Proc. Of the 27th European Conf. On Solid-State Circuits, ESSCIRC 2001; Sept. 18-20, 2001; Pages 117-120].

Regarding claim 1, Pessl et al teach a subscriber line transceiver shown in Fig. 2, comprising:

a very integrated circuit (IVAX) coupling at least one of an upstream and a downstream voice path for carrying voice signals to a subscriber line [Fig. 2; Page 117, right column, lines 1-10], wherein the integrated circuit couples at least one of an

upstream and a downstream data path for carrying data signals to the subscriber line [Section 2.2], wherein the integrated circuit (IVAX) provides a common downstream path for coupling any downstream voice and data paths (i.e. ADSL over POTS) to the subscriber line [Page 117, right column, lines 6-10], wherein the voice signals are communicated within a first frequency range (i.e. voiceband), wherein the data signals are communicated within a second frequency range (i.e. non-voiceband), wherein the first and second frequency ranges are distinct [Fig. 1; Section 2.3].

Regarding claim 2, Pessl et al further teach the apparatus, wherein the integrated circuit (IVAX) further comprises a driver (i.e. programmable) for driving a downstream voice signal onto the subscriber line [Section 2.3].

Regarding claim 3, Pessl et al further teach the apparatus, wherein the integrated circuit (IVAX) further comprises a driver (i.e. programmable) for driving a metering signal onto the subscriber line [Section 2.3; lines 14-25].

Regarding claim 4, Pessl et al further teach the apparatus, wherein the integrated circuit further comprises: a driver for driving a downstream data signal onto the subscriber line the apparatus [Fig. 1; Section 2.2].

Regarding claims 5-9, the limitations are shown above.

Regarding claim 10, Pessl et al further teach the apparatus, wherein the first frequency range (i.e. voiceband range) has an upper bound of approximately 4 kHz (ADSL over POTS) [Fig. 1; Page 117, right column, lines 6-10].

Regarding claim 11, Pessl et al teach a subscriber line transceiver apparatus (IVAX) shown in Fig. 2, comprising:

a first receiver circuit for extracting upstream voice signals carried by a subscriber line, wherein the first receiver circuit substantially eliminates any signals outside of a first frequency range associated with voiceband communications to provide the upstream voice signals; and

a second receiver circuit for extracting upstream data signals from the subscriber line, wherein the second receiver circuit substantially eliminates any signals outside of a second frequency range associated with data communications to provide the upstream data signals, wherein the first and second receiver circuits reside on a same integrated circuit die (IVAX chipset), wherein the integrated circuit provides a common upstream path for receiving any upstream voice and data signals from the subscriber line [Figs. 1-2; Page 117, lines 1-10; Section 2 (Chip Architecture)].

4. Claims 12-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Pessl et al as applied to claim 11 above, and further in view of Hjartarson et al [US 6,295,343 B1].

Regarding claim 12, although Pessl et al teach driving (i.e. programming) upstream voice signals and upstream data signals [Section 2.2, Section 2.3], they do not teach expressly a first drive and a second driver.

Hjartarson et al teach an apparatus, wherein the first receiver circuit further comprises a first driver [Fig. 8; element shown but not labeled] for driving the upstream voice signals ; and wherein the second receiver circuit further comprises a second driver [Fig. 8; element shown but not labeled) for driving the upstream data signals.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Hjartarson et al with Pessl et al in order to explicitly show the functioning of the first driver and the second driver.

Regarding claim 13, Hjartarson et al further teach the apparatus: wherein the first receiver circuit further comprises a first pass filter coupled to (i.e. embedded within) the first driver, wherein the first filter substantially excludes any signals outside of the first frequency range; and wherein the second receiver circuit further comprises a second pass filter coupled to (i.e. embedded within) the second driver, wherein the second filter substantially excludes any signals outside of the second frequency range [Fig. 8].

Regarding claim 14, Hjartarson et al further teach the apparatus wherein the first filter is inherently a low pass filter to output low frequency signals to POTS (406) [Fig. 8].

Regarding claim 15, Hjartarson et al further teach the apparatus wherein the second filter is inherently a high pass filter to pass data signals to DSL (408) [Fig. 8].

Regarding claim 16, Hjartarson et al further teach the apparatus: wherein the first receiver circuit further comprises a first hybrid filter (i.e. anti-aliasing filter 514) coupled to the first driver, wherein the first hybrid and first driver co-operate to eliminate downstream voiceband signals; and wherein the second receiver circuit further comprises a second hybrid filter (i.e. anti-aliasing filter 514) coupled to the second driver, wherein the second hybrid and second driver co-operate to eliminate downstream data signals [Figs. 7-8; col. 6, lines 66-67].

Regarding claim 17, Hjartarson et al further teach the apparatus: wherein the first receiver circuit further comprises:

a first driver for driving the upstream voice signals [Fig. 8];

a first hybrid filter (i.e. anti-aliasing filter 514) for eliminating downstream voice signals from the received subscribe line signals;

a first pass filter (i.e. low pass filter embedded within the first driver, Fig. 8) for eliminating any signals outside of the first frequency range, (i.e. voiceband) wherein the first driver, first hybrid filter, and first pass filter co-operate to provide the upstream voice signals from the subscriber line to the exclusion of any other signals carried by the subscriber line;

wherein the second receiver circuit further comprises: a second driver for driving the upstream data signals; a second hybrid filter (514) for eliminating downstream data signals from the received subscriber line signals; and a second pass filter (i.e. high pass filter) for eliminating any signals outside of the second frequency range, wherein the second driver, second hybrid filter, and second pass filter co-operate to provide the upstream data signals from the subscriber line to the exclusion of any other signals carried by the subscriber line [Figs. 7-8; col. 6, line 60 to col.7, line 29].

Regarding claim 18, Hjartarson et al further teach the apparatus wherein an upper bound of the first frequency range is approximately 4 kHz [Fig. 1a].

Regarding claim 19, Pssl et al further teach the apparatus wherein a lower bound of the second frequency range is approximately 25 kHz [Fig. 1].

Regarding claim 20, Hjartarson et al further teach the apparatus wherein the upstream voiceband signal at 406 is an unmodulated signal [Fig. 8].

Regarding claim 21, Hjartarson et al further teach the apparatus wherein the upstream data signal is a modulated signal at 408 [Fig. 8].

Regarding claim 22, Pessl et al further teach the apparatus wherein the upstream data signal uses a discrete multi-tone (DMT) modulation line code [Page 120, Left column, lines 1-7].

Regarding claims 23-25, although Hjartarson et al teach the apparatus wherein upstream data signal uses a discrete multi-tone (DMT) modulation line code [col. 1, lines 38-56], it would have been obvious to one of ordinary skill in the art , at the time the invention was made, to use other modulation techniques such as a carrierless amplitude and phase (CAP) modulation line code, a two binary 1 quaternary (2B1Q) line code, and a quadrature amplitude and phase modulation (QAM) line code for comparison of the results with that of the DMT modulation line code to determine impulse noise effects.

Response to Arguments

5. Applicant's arguments Aug. 28, 2006 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramnandan Singh
Examiner
Art Unit 2614